muscle has not been determined. A dye that I have made by linking novocaine with a benzene nucleus was found to be physiologically active, like the 2.5% novocaine, and appears to stain the elements acted upon by the novocaine. When the stain is diazotized directly into the living muscle, by putting the tissue first into novocaine and then into a solution of the staining base, only the muscle nuclei take the stain deeply, the nervous elements of the end-plates as well as the motor fibers remaining uncolored. It seems reasonably certain, therefore, that novocaine acts upon some constituent of the neuro-muscular mechanism beyond the end-plates. The significance of the affinity of the dye for the muscle nuclei is as yet unknown. The object of this note is to direct the attention of physiologists to a convenient substitute for curare.

NOTE ON A METHOD OF DETERMINING THE DISTRIBUTION OF PORE SIZES IN A POROUS MATERIAL

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The pressure required to force mercury into a capillary pore of radius, r, is $\frac{-2\gamma\cos\theta}{r}$, where γ is the surface tension and θ the angle of contact. Upon this relation can be based a method for determining the effective pore diameters in a porous material such as charcoal. If pores of various diameters are present, one may determine also the fraction of the total porosity which is due to pores having effective diameters lying between any two stated limits. The procedure would be as follows:

The coarsely granular sample of the thoroughly outgassed material is weighed and placed in a steel pressure bomb which is then evacuated until all adsorbed gases are removed. Pure mercury is then admitted to fill the bomb and a series of pressure and volume measurements are made at various pressures up to the highest pressure it is desired to employ.

The decrease in volume, ΔV, accompanying a small pressure increase of Δp, in any part of the range must evidently be due to the filling of pores whose effective radii lie between the limits r and $r - \Delta r$, or

$$\frac{\Delta r}{\Delta p} = \frac{-2\gamma\cos\theta}{p^2}.$$

A blank experiment without the porous material should of course be made in order to correct for the compressibility of the mercury and the expansion of the bomb under pressure. For accurate results the compressibility of the porous material, and the variation of γ and θ with p should also be known.

The value of θ could be determined from an X-ray photograph of a mercury meniscus in a capillary composed of the material under examination, or by the drop-shape method.

AN APPARENT CASE OF NON-MENDELIAN INHERITANCE IN DATURA DUE TO A DISEASE

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In the common Jimson Weed (*Datura Stramonium*), spiny or armed capsules are dominant to smooth or *inermis* capsules. A cross between two plants, each homozygous for a single member of this pair of characters will produce spiny fruited offspring in the F_1 and a ratio of 3 spiny to 1 smooth plant in the F_2 generation.

In 1915, the writer found a single *inermis* plant in a culture where smooth capsules could not have occurred through segregation. It was considered a new *inermis* mutation and its inheritance was therefore studied in crosses with normals.

The new form was called Quercina on account of the increased oak-like dentation of its leaves. The most conspicuous character on the mature plant was the partial or complete suppression of spines on the capsules. An examination of the plants throughout the growing and flowering condition indicated that other parts of the plant were also involved and showed such changes as the slitting of the normally undivided corolla, the absence of pollen, which caused the plant to depend upon outcrossing in order to set seed, and certain other characters associated with less vigorous growth.

Later investigation showed that the Quercina character occurred spontaneously in the garden cultures in many ways like a vegetative mutation. In a single year's test, about $1^1/_4$ per cent of the normal plants in the field took on the Quercina character by the last of the season. This Quercina character generally shows itself weakly in a single branch and gradually spreads to all the new growth. It occasionally happens on plants which are acquiring the Quercina character that capsules will be found in a transitional condition with their spines only partially reduced. Sometimes some of the valves may be entirely smooth and others on the same capsule fully spined.

So far as we can judge from the literature, other investigators who have worked on the Jimson Weed found have Quercina plants in their cultures. They seem not to have noticed, however, any of the distinctive characters other than those shown by the capsules.